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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/685,317 | 10/10/2000 | Daniel L. Nower | 53199.US | 4835 |

408 7590 04/12/2002

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EXAMINER

LAU, TUNG S

| | |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2863

DATE MAILED: 04/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/685,317

Applicant(s)

NOWER ET AL.

Examiner

Tung S Lau

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other:

3DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1-3, 6, 10-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandstrom (U.S. Patent 5,727,900) in view of Legouis et al. (U.S. Patent 5,213,184) and Asmundsson et al. (U.S. Patent 4,021,774)

Sandstrom discloses an angular position sensing apparatus for mounting on a rotatable body with a dual-axis accelerometer to sense its proper axis centrifugal acceleration components (fig. 2, lines, col. 4, lines 14-25), a microprocessor to determine the angular position of the body with angle processing module (fig. 2).

Sandstrom does not disclose a second dual-axis accelerometer system, the signals processing using the information from the first and second dual-axis, an alignment system with photosensitive sensor.

Legouis discloses a second dual-axis accelerometer system, the signals processing using the information from the first and second dual-axis system (fig. 1-6). Asmundsson discloses an alignment system with photosensitive sensor (col. 9, lines 50-61), with sine wave output signals (fig. 8,9). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify Sandstrom to have the dual-axis accelerometer system taught by Legouis and Asmundsson in order to effectively analyze multiple axis system.

b. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sandstrom as applied to claim 1, and further in view of Migda et al. (U.S. Patent 4,990,840)

The Sandstrom combination disclose a method including the subject matter discussed above except the use of finite impulse response filter, Migda disclose such usage (col.6, lines 63-68), to increase system reliability and simplicity (col. 2, lines 51-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sandstrom to use of finite impulse response filter as taught by Migda in order to increase system reliability and simplicity.

c. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sandstrom as applied to claim 4, and further in view of Jolly et al. (U.S. Patent 5,845,236)

The Sandstrom combination disclose a method including the subject matter discussed above except the sampling frequency of about 300 Hz, passband of

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about 2 Hz and stop band of 8 Hz. Jolly disclose the normal working range of a physical system having frequency ranging of a 50-300 Hz (col. 7, lines 1-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sandstrom to sample the frequency about 300 Hz, passband of about 2 Hz and stop band of 8 Hz as taught by Jolly in order to have a complete analysis system.

d. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sandstrom as applied to claim 6, and further in view of of Blasing (U.S. Patent 6,304,190)

The Sandstrom combination disclose a method including the subject matter discussed above except the highest resolution sensing apparatus, Blasing disclose such application (col. 2, lines 7-31) to detect with precision (col.2, lines 33-41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sandstrom to have the high resolution sensing apparatus as taught by Blasing in order to detect position precisely.

e. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sandstrom as applied to claim 1, and further in view of of Legouis et al. (U.S. Patent 5,213,184).

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The Sandstrom combination disclose a method including the subject matter discussed above except the center of 2 axis of rotation proximate intersect each other, Legouis disclose such a system with the center offset (fig. 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sandstrom to have the center of 2 axis of rotation proximate intersect each other as taught by Legouis in order to use for different application.

f. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sandstrom as applied to claim 1, and further in view of Berger et al. (U.S. Patent 5,890,870)

The Sandstrom combination disclose a method including the subject matter discussed above except the use of noise spike filter, Berger disclose such application (col. 8, lines 5-24).). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sandstrom to have the noise spike filter in the system as taught by Berger in order to have a noise immune detection system.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309.

The examiner can normally be reached on M-F 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John S Hilten can be reached on 703-308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TL

April 8, 2002



JOHN S. HILTEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800